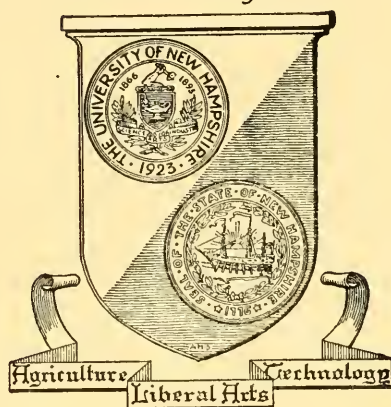




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Bulletin 357

July, 1945

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
Department of Agronomy

Results of Seed Tests For 1945

Made for the
STATE DEPARTMENT OF AGRICULTURE



By BESSIE G. SANBORN

THE UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.

RESULTS OF SEED TESTS

Made July 1, 1944, to June 30, 1945

This report contains the results of the seed inspection work for the State Department of Agriculture of two hundred and forty-five official samples collected throughout the state during the period from July 1, 1944, to June 30, 1945. In addition to these official samples, 1309 private samples were analyzed, making a total of 1554 samples inspected.

Because some dealers or individuals may not be familiar with our seed law which was passed in 1943 and the rules and regulations pertaining to it, they are included in this report.

STATE OF NEW HAMPSHIRE

CHAPTER 224, LAWS OF 1943

AN ACT

To Regulate the Labeling, Sale and Offering or Exposing for Sale, of Agricultural and Vegetable Seeds.

AGRICULTURAL AND VEGETABLE SEEDS

1. DEFINITIONS. Terms used in this chapter shall be construed as follows:

I. The term "agricultural seeds" shall include the seeds of grass, forage, cereal and fibre crops and any other kinds of seeds commonly recognized within this state as agricultural or field seeds, and mixtures of such seeds.

II. The term "vegetable seeds" shall include the seeds of those crops which are grown in gardens or on truck farms and are generally known and sold under the name of vegetable seeds in this state.

III. The term "weed seeds" shall include the seeds of all plants generally recognized as weeds within this state, and shall include noxious weed seeds.

IV. Noxious weed seeds shall be divided into two classes, "primary noxious weed seeds" and "secondary noxious weed seeds" as herein defined; provided, that the commissioner of agriculture may add to or subtract from the list of seeds included under either definition whenever he finds that such additions or subtractions are within the respective definitions.

V. "Primary noxious weed seeds" shall include the seeds of perennial weeds such as those that reproduce and spread by underground roots or stems as well as by seed, and which, when established, are highly destructive and difficult to control in this state by ordinary good cultural practice. Primary noxious weed seeds in this state are the seeds of: Canada thistle (*Cirsium arvense*), field bindweed (*Convolvulus arvensis*), and quackgrass (*Agropyron repens*).

VI. "Secondary noxious weed seeds" shall include the seeds of such weeds as are very objectionable in field, lawns, or gardens of this state, but can be controlled by good cultural practices. The secondary noxious weed seeds in this state are the seeds of: dodder (*Cuscuta* spp.) and crab grass (*Digitaria sanguinalis*).

VII. The term "labeling" includes all labels, and other written, printed, or graphic representations, in any form whatsoever, accompanying and pertaining to any seed whether in bulk or in containers, and includes invoices.

VIII. The term "advertisement" means all representations, other than those on the label, disseminated in any manner or by any means, relating to seed within the scope of this chapter.

2. LABEL REQUIREMENT. Each separate container of agricultural or vegetable seed, including seeds in small packets, which is sold, offered for sale, or exposed for sale, within this state for sowing purposes shall bear thereon or have attached thereto in a conspicuous place a plainly written or printed label or tag in the English language, giving the information as set forth in sections 3 and 4.

3. AGRICULTURAL SEEDS. For agricultural seeds the following is required:

I. Commonly accepted name of kind, or kind and variety, of each agricultural seed component in excess of five per cent of the whole and the percentage by weight of each. Where more than one component is required to be named, the word "mixture" or "mixed" shall be associated with the name on the label.

II. Lot number or other lot identification.

III. Origin, if known, of alfalfa, red clover and field corn (except hybrid corn). If the origin is unknown, that fact shall be stated.

IV. Percentage by weight of all weed seeds, including those known as noxious weeds.

V. Secondary noxious weeds. The name and approximate number of each kind

of secondary noxious weed seed, per ounce in groups (A) and (B) and per pound in groups (C) and (D), when present singly or collectively in excess of—

(A) One seed or bulblet in each 5 grams of *Agrostis* spp., *Poa* spp., Rhodes grass, Bermuda grass, timothy, orchard grass, fescues (except meadow fescue), alsike and white clover, reed canary grass, Dallis grass, and other agricultural seeds of similar size and weight, or mixtures within this group;

(B) One seed or bulblet in each 10 grams of ryegrass, meadow fescue, fox-tail millet, alfalfa, red clover, sweetclovers, lespedezas, smooth brome, crimson clover, *Brassica* spp., flax, *Agropyron* spp., and other agricultural seeds of similar size and weight, or mixtures within this group, or of this group with (A);

(C) One seed or bulblet in each 25 grams of proso, Sudan grass and other agricultural seeds of similar size and weight, or mixtures not specified in (A), (B), or (D);

(D) One seed or bulblet in each 100 grams of wheat, oats, rye, barley, buckwheat, sorghums (except Sudan grass), vetches, and other agricultural seeds of a size and weight similar to or greater than those within this group, or any mixtures within this group.

All determinations of noxious weed seeds are subject to tolerances and methods of determination prescribed in the rules and regulations under this chapter.

VI. Percentage by weight of agricultural seeds other than those required to be named on the label.

VII. Percentage by weight of inert matter.

VIII. For each named agricultural seed, percentage of germination, exclusive of hard seed, percentage of hard seed, if present, and the calendar month and year the test was completed to determine such percentages.

IX. Name and address of the person who labeled said seed, or who sells, offers, or exposes said seed for sale within this state.

4. **VEGETABLE SEEDS.** For vegetable seeds, the following is required:

I. Name of kind and variety of seed, and the calendar month and year when last tested for germination.

II. For seeds which germinate less than the standard last established by the commissioner of agriculture hereunder, and in type not smaller than ten point size: percentage of germination exclusive of hard seed; percentage of hard seed, if present; and the words "below standard."

III. Name and address of the person who labeled said seed, or who sells, offers or exposes said seed for sale within this state.

5. **ILLEGAL SALES.** It shall be unlawful for any person to sell, offer for sale or expose for sale any agricultural or vegetable seed within this state:

I. Unless the test to determine the percentage of germination required by sections 3 and 4 shall have been completed within a nine-month period, exclusive of the calendar month in which the test was completed, immediately prior to sale, exposure for sale, or offering for sale or transportation.

II. Not labeled in accordance with the provisions hereof, or having a false or misleading labeling.

III. Pertaining to which there has been a false or misleading advertisement.

IV. Any agricultural seeds containing any primary noxious weed seeds except as may be allowed under tolerances prescribed in the rules and regulations hereunder.

6. **PROHIBITIONS.** It shall be unlawful for any person within this state:

I. To detach, alter, deface or destroy any label provided for herein or the rules and regulations made and promulgated hereunder, or to alter or substitute seed, in a manner that may defeat the purposes hereof.

II. To disseminate any false or misleading advertisement concerning agricultural or vegetable seed in any manner or by any means.

III. To hinder or obstruct in any way any authorized person in the performance of his duties hereunder.

IV. To fail to comply with a "stop sale" order.

7. EXEMPTIONS. The provisions of sections 2 to 6, inclusive, do not apply to seed or grain not intended for sowing purposes, nor to seed in storage in, or consigned to, a seed cleaning or processing establishment for cleaning or processing, provided, that any labeling or other representation which may be made with respect to the unclean seed shall be subject to the provisions hereof.

8. EXCEPTIONS. No person shall be subject to the penalties hereof for having sold, offered or exposed for sale in this state any agricultural or vegetable seeds, which were incorrectly labeled or represented as to kind, variety, or origin which seeds cannot be identified by examination thereof, unless he has failed to take all proper precautions to insure the identity to be that stated in accordance with rules and regulations hereunder.

9. DUTIES AND AUTHORITY OF COMMISSIONER OF AGRICULTURE. The commissioner of agriculture, who may act through his authorized agents, shall have the power:

I. To sample, inspect, make analyses of, and test, agricultural and vegetable seeds transported, sold, offered or exposed for sale within this state for sowing purposes, at such time and place and to such extent as he may deem necessary to determine whether said agricultural or vegetable seeds are in compliance with the provisions hereof, and to notify promptly the person who transported, sold, offered or exposed the seed for sale, of any violation.

II. To prescribe, and after public hearing to adopt, rules and regulations governing the methods of sampling, inspecting, analysis, tests, examination of agricultural and vegetable seed, and the tolerances to be followed in the administration hereof, which shall be in general accord with officially prescribed practice in interstate commerce, and such other rules and regulations as may be necessary to secure the efficient enforcement hereof.

III. To enter upon any public or private premises during regular business hours in order to have access to seeds subject to this chapter and the rules and regulations promulgated hereunder.

IV. To issue written or printed "stop sale" orders which shall prohibit further sale of any lot of agricultural or vegetable seed which the commissioner has reason to believe is in violation of any of the provisions hereof until the law has been complied with or said violation otherwise legally disposed of: Provided, that no "stop sale" order shall be issued or attached to any lot of seed without first giving the owner or custodian of such seed an opportunity to comply with the law or to withdraw the seed from sale.

V. To establish and maintain or make provision for seed testing facilities, to employ qualified persons, and to incur such expenses as may be necessary to comply with these provisions.

VI. To make or provide for making purity and germination tests of seeds for farmers and dealers on request; to prescribe rules and regulations governing such testing; and to fix and collect charges for the tests made. All fees collected hereunder shall be paid over by the commissioner to the state treasurer who shall keep the same in a special fund to be used only for purposes of this chapter.

VII. To cooperate with the United States department of agriculture in seed law enforcement.

10. SEIZURE. Upon the recommendation of the commissioner of agriculture or his duly authorized agents, the court of competent jurisdiction in the area in which the seed is located shall cause the seizure and subsequent denaturing, processing, or destruction to prevent the use for sowing purposes of any lot of agricultural or vegetable seed found to be unfit for sowing purposes. Provided, that in no instances shall the denaturing, processing, or destruction be ordered without first having given the claimant of said seed an opportunity to apply to said court for the release of said seed.

11. PENALTIES. Whoever violates any of the provisions of this chapter or any rule or regulation promulgated hereunder shall be fined not exceeding one hundred dollars for the first offense and not exceeding two hundred and fifty dollars for each subsequent offense. Fines collected hereunder shall be paid, by the court collecting the same, to the commissioner of agriculture and by him forwarded to the state treasurer for the use of the state.

12. PUBLICATION. The commissioner of agriculture shall publish, or cause to be published, the results of tests and analyses of samples of agricultural and vegetable seeds, as herein provided, together with the names and addresses of the persons from whom the samples of seed were obtained. He may publish such other information as he may deem advisable concerning the value, character and use of certain seeds.

2. TAKES EFFECT. This act shall take effect upon its passage.

Approved March 10, 1943.

RULES AND REGULATIONS

SAMPLING.

(a) In order to secure a representative sample, equal portions shall be taken from evenly distributed parts of the quantity of seed to be sampled. Access shall be had to all parts of that quantity.

(b) For free-flowing seed in bags or bulk, a probe or trier shall be used. For small free-flowing seed in bags, a probe or trier long enough to sample all portions of the bag shall be used.

(c) Non-free-flowing seed, such as certain grass seed, uncleaned seed, or screenings, difficult to sample with a probe or trier, shall be sampled by thrusting the hand into the bulk and withdrawing representative portions.

(d) The portions shall be combined into a composite sample or samples.

(e) As the seed is sampled, each portion shall be examined, and, whenever there appears to be a lack of uniformity, additional samples shall be taken to show such lack of uniformity as may exist.

Bulk seeds shall be sampled by inserting a long probe or thrusting the hand into the bulk as circumstances require in several uniformly distributed parts of the quantity being sampled.

Bags: (1) In quantities of five bags or less, each bag shall be sampled.

(2) In quantities of more than five bags, at least every fifth bag but not less than five bags shall be sampled. Samples shall be drawn from unopened bags except under circumstances where the identity of the seed has been preserved.

In sampling packet seeds, entire unopened packets shall be taken.

Size of sample. The following are minimum weights of samples of seed to be submitted for analysis, test, or examination:

(1) Two ounces of grass seed not otherwise mentioned, white or alsike clover, or seeds not larger than these.

(2) Five ounces of red or crimson clover, alfalfa, ryegrass, brome-grasses, millet, flax, rape, or seeds of similar size.

(3) Two pounds of cereals, vetches, or seeds of similar or larger size.

(4) Two quarts of screenings.

ANALYSIS.

The New Hampshire seed laboratory will be guided in making purity and germination tests by the rules and regulations prescribed under the Federal Seed Act.

TOLERANCE.

Owing to the natural variation between tests, the following tolerances shall be allowed between the percentages found by analysis, test or examination and the percentages stated on the tag accompanying the seed:

For purity: Allowing "a" to represent the component being considered and "b" the difference between that percentage and 100, according to the following formula:

$$\text{Pure seed tolerance} = 0.6 + \left(0.2 \times \frac{a \times b}{100} \right)$$

a sample of timothy guaranteed 99.20 would have an allowable variation of .75 or could test as high as 99.95 or as low as 98.45 and be "satisfactory."

For germination: The following tolerances are applicable:

HEALTHY SPROUTS FOUND BY TEST IN EACH 100 SEEDS	TOLERANCE
96 or over	5
90 or over but less than 96	6
80 or over but less than 90	7
70 or over but less than 80	8
60 or over but less than 70	9
Less than 60	10

Therefore, a sample of seed guaranteed 85% for germination may be as high as 92% or as low as 78% and be "satisfactory."

For weed seeds: The law requires in the labeling of agricultural seed (1) that the percentage of all weed seeds present shall be shown on the tag, (2) that no primary noxious weed seeds shall be present in the sample, and (3) that secondary noxious weed seeds shall be given by name and approximate number, per ounce in groups (A) and (B) and per pound in groups (C) and (D), when present singly or collectively in excess of—

(A) One seed or bulblet in each 5 grams of *Agrostis* species, *Poa* species, Rhodes grass, Bermuda grass, timothy, orchard grass, fescues (except meadow fescue), alsike and white clover, reed canary grass, Dallis grass and other agricultural seeds of similar size and weight, or mixtures within this group;

(B) One seed or bulblet in each 10 grams of ryegrass, meadow fescue, foxtail millet, alfalfa, red clover, sweetclovers, lespedezas, smooth brome, crimson clover, Brassica species, flax, *Agropyron* species, and other agricultural seeds of similar size and weight, or mixtures within this group or of this group with (A);

(C) One seed or bulblet in each 25 grams of proso, Sudan grass and other agricultural seeds of similar size and weight, or mixtures not specified in (A), (B), or (D);

(D) One seed or bulblet in each 100 grams of wheat, oats, rye, barley, buckwheat, sorghum (except Sudan grass), vetches, and other agricultural seeds of a size and weight similar to or greater than those within this group, or any mixtures within this group.

Certain tolerances are allowed, however, to provide for variations and unavoidable errors, but only within very narrow limits and for which there is always a standard formula for computation. Examples: (1) Timothy guaranteed only 2 per cent weed seeds will not be condemned if it has 2.59 per cent. (2) No primary noxious weed seeds are allowed, but the presence of two such seeds in 50 grams of timothy would not be considered a violation. (3) Similarly, some slight variation from the minimum requirement for labeling secondary noxious weed seeds will be passed as satisfactory.

FREE TESTING.

The Seed Testing Laboratory will allow six free tests, in a given year, to any resident company or person of New Hampshire, but such seeds must be received in the laboratory during the months of November, December, January and February. This number of samples, not including mixtures, may be analyzed either for purity or for germination, or three samples for both purity and germination, free of charge. A given seed company will be entitled to six private tests without charge, but not six from each branch store. For numbers in excess of six, a charge will be made for labor and consumable supplies only, the amount depending on the type of sample according to the following schedule:

Germination tests of all crop seeds, including timothy, clovers and alfalfa, 25 cents each;

Germination tests of all grasses except timothy, 50 cents each;

Germination tests of mixtures, 25 cents for each kind of seed present;

Purity analyses of cereals like corn and oats, 50 cents each; and of timothy, 75 cents each;

Purity analyses of all other kinds of crop seeds, except grasses, 75 cents each;

Purity analyses of the smaller grass seeds and of all mixtures of not more than two kinds of agricultural seeds, 1.00 each;

All purity analyses of special mixtures, including those for lawn and pasture seeding, a charge sufficient to cover the actual cost of working the sample submitted for test, minimum charge of \$1.25.

Such private samples of seed to be tested should be drawn in such a way as to be representative of the bulk lot from which they are taken, and should be addressed to the State Seed Testing Laboratory, Durham, New Hampshire. Such private tests cannot be declared as state official tests unless drawn by a representative of the department of agriculture, as provided in Chapter 224 of the Public Laws. Fees must be paid before reports will be sent out.

- The minimum weights of samples to be submitted for analysis are:
1. Two ounces of grass seed, white or alsike clover, or seeds not larger than these.
 2. Five ounces of red or crimson clover, alfalfa, ryegrasses, millet, rape, or seeds of similar size.
 3. One pound of cereal, vetches or seeds of similar or larger size.

The minimum number of seeds of any one kind to be submitted for a germination test is 400.

GERMINATION STANDARDS FOR VEGETABLE SEED.

Following are germination standards established by the commissioner of agriculture pertaining to Section four of the act entitled Vegetable Seeds.

PER CENT		PER CENT	
Artichoke	60	Leek	60
Asparagus, including hard seeds..	70	Lettuce	80
Beans (except lima)	75	Muskmelon	75
Beans, lima	70	Mustard	75
Beets	65	Okra	50
Broccoli	75	Onion	70
Brussels sprouts	70	Parsley	60
Cabbage	75	Parsnip	60
Cauliflower	75	Peas	80
Carrot	55	Pepper	55
Celery and celeriac	55	Pumpkin	75
Chicory	65	Radish	75
Citron	65	Rhubarb	60
Collards	80	Rutabaga	75
Corn	75	Salsify	75
Cress, garden	40	Sorrel	60
Cress, water	35	Spinach (except New Zealand)	60
Cucumber	80	Spinach (New Zealand)	40
Dandelion	45	Squash	75
Eggplant	60	Swiss chard	65
Endive	70	Tomato	75
Fetticus (cornsalad)	70	Tomato, husk	50
Kale	75	Turnip	80
Kohlrabi	75	Watermelon	70

LABELING.

The following labels are suggested as meeting the minimum requirements of the New Hampshire seed law.

Example for unmixed agricultural seed:

John F. Doe Greene, N. H. Company	Mammoth Clover	Lot No. 243	
	Pure seed	98.65	
	Crop seed	.86	Germination 80%
	Weeds	.38	
	Inert matter	.11	Hard seeds 7
	Origin Idaho	Date of test Jan. 1943	
	1 dodder per oz.		

Example for mixed agricultural seed :

John E. Doe Company Greene, N. H.	Grass seed, mixed		Lot No. 0236		
	Purity :		Germination :		
	Perennial ryegrass	32.23%	92.5%	January	1943
	Chewing fescue	18.08	85.0%	December	1942
	Kentucky bluegrass	14.75	80.0%	January	1943
	Canada bluegrass	15.37	58.5%	January	1943
	Creeping bent	14.20	84.0%	January	1943
	Crop seed	.61			
	Weed seed	2.07			
	Inert matter	2.69			
	5 Crabgrass per oz.				

Example for vegetable seed:
(Up to standard)

"New York Lettuce
John Smith, Dale, Ill.
Date of Germination test: February 7, 1943."

(For vegetable seed
which germinates
less than standard)

"New York Lettuce
John Smith, Dale, Ill.
Date of Germination test: February 7, 1943.
Germination 75%

BELOW STANDARD"

The law states that "each separate container of agricultural or vegetable seed, including seeds in small packets, shall be labeled"; but if a dealer has bulk lots of seeds exposed for sale and these bulk lots are properly labeled, he shall not be required to copy the information from the label on to each individual bag in which he delivers small lots of this bulk seed over the counter to customers.

N. H. EXPERIMENT STATION

AGRICULTURAL SEED INSPECTION, 1945

Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Purity Found	Purity Guaranteed	Germination Found	Germination Guaranteed
Ayers & Jenkins Company, ... Rochester	12997 12996 12992 12995 12994 13168 13167 13169 12965	Alsike Clover, 2853 Hungarian Millet, 5838 Red Clover, Illinois, 3331 Redtop, 2033 Timothy, 5948 Red Clover, Medium Redtop, 30-141 Timothy, 10-586 Ladino Clover, Lot 56 L 17	(Note) 1/1941 5/1941 2/1943 5/1941	(Note) S S S S S S S S S S	98.10 98.28 98.34 93.80 99.65 93.50 93.12 99.00 99.48	(Note) S 27 72 S 70 S 61 S S	74 92 88 90 90 82 90 90 80
G. N. Bartemus Company, ... Concord	13116	Corn, Page's Smoky Dent #5009	S	S	98.00	82	90
Beacon Grain Store, ... Dover	13166	Hungarian Millet, 83101	S	S	98.22	S	80
L. C. Berry, ... Lebanon	13165	Japanese Millet, 08191	S	S	99.00	S	81
Central Garage & Supply Co., Tilton	13164	Red Clover, Medium, 24347-8 ..	S	S	99.36	82	94
Eastern States Farmers' Exc., Woodsville	13128 13129 13127 13130 13170	Alsike Clover, #343 Japanese Millet, #1187 Red Clover, Medium, #1202 ... Timothy, #1176 Alfalfa, Canada, 29-146 A	S S S S S	S S S S S	99.25 98.40 99.27 99.60 99.10	S 82 A S S	75 90 78 90 74
Farmers Feed & Supply, ... Manchester	13060	Japanese Millet	S	S	98.68	S	81
General Mills, ... Laconia	13026 13025	Alsike Clover, #25x418 Red Clover	S S	S 98.23	97.74 99.52	S A	78 62
General Mills, ... Portsmouth	13073	Alsike Clover, 21891	1942	S	98.05	79	94
C. J. Goss, ... Lakeport	13074 13072	Redtop, 3830 Timothy, 3740	S S	S S	92.78 99.60	S S	90 90

(Note) S—Satisfactory; figures or blanks in these columns indicate violation.

* As stated on tag accompanying seed.

A—Above or better than guarantee.

Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Purity Found	Purity Guaranteed	Germination Found	Germination Guaranteed
J. H. Griffin, ... Newmarket	13032	Alsike Clover, Lot 15511	S	S	98.30	48	80
John M. Guay Hardware Co., Laconia	13030	Redtop, Lot 40434	S	S	94.64	77	88
	13067	West Park Mixed Grass Seed: Timothy	S				
		Redtop		58.28	49.50	S	50
		Ryegrass		S	13.50	S	70
		White Clover		10.06	21.78	S	90
				S	.50	61	75
C. M. Hildreth & Son, ... Lebanon	13145	Alsike Clover		95.90	.....	57	.....
	13146	Red Clover, Medium		86.23	.....	65	.....
	13147	Timothy		99.36	.....	88	.....
Jefferson Feed & Supply Co., Rochester	13005	Alsike Clover		99.08	.....	83	.....
	13008	Hungarian Millet	S	98.80	.....	96	.....
	13007	Red Clover		98.01	.....	85	.....
J. Jones & Son, ... Alton	13054	Alsike Clover		96.45	.....	34	.....
	13050	Bluegrass, Kentucky		S	85.40	41.5	80
	13049	Hungarian Millet		99.48	.....	8	.....
	13056	Lawn Seed Blend, Elm Tree H143:	3/1943				
		Kentucky bluegrass		S	29.75	47.5	80
		Redtop		S	31.50	S	90
		Ryegrass		S	29.75	S	90
	13052	Red Clover		99.19	.....	7	.....
	13051	Redtop		93.38	.....	79	.....
	13055	Timothy		S	99.60	30.5	92
Littleton Hardware Co., Inc., Littleton	12934	Lawn Grass, Quality Royal: Kentucky bluegrass	2/1942				
		Agrostis sp.		43.59	.....	78	.....
		Ryegrass		29.25	.....	89	.....
				19.82	.....	95	.....
Mast Road Grain Company .. Manchester	13161	Red Clover, Y 442	S	S	99.34	A	76

(Note) S—Satisfactory; figures or blanks in these columns indicate violation.

* A's stated on tag accompanying seed.

A—Above or better than guarantee.

Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Purity Found	Purity Guaranteed	Germination Found	Germination Guaranteed
Merrimack Farmers' Exchange, Concord	13156	Alsike Clover, 21132, Idaho	S	S	99.45	A	77
	13149	Kentucky bluegrass	S	S	85.10	S	80
	13155	Oats, Merrimack	.....	S	95.00	S	95
	13157	Red Clover, Medium, 2802	S	S	99.38	A	80
	13159	Redtop, 41280	S	93.76	96.60	S	92
	13154	Timothy, Minnesota, 66642	S	S	99.65	S	91
	13158	White Clover, 28-335	S	97.52	98.65	S	77
	13101	Alsike Clover, 21132	S	S	99.45	S	77
Merrimack Farmers' Exchange, Derry	13102	Hungarian Millet, 8399	S	S	99.04	S	75
Merrimack Farmers' Exc., ... Epping	13110	Alfalfa, Grimm, 28710	S	S	99.46	S	61
	13109	Japanese Millet, J5, C45	S	S	98.00	S	85
	13112	Ladino Clover, 26568	.....	98.07	.....	65	.....
	13111	Red Clover, Medium Pine Tree	S	S	99.46	S	80
Merrimack Farmers' Exchange, Exeter	13114	Redtop, 41280, Ill.	S	S	96.30	S	92
	13113	Timothy, 66642	S	S	99.65	S	91
	13046	Lawn Seed #1:	S	.....	.....	.....	.....
		Timothy	.....	51.21	40.00	79.5	.....
		Redtop	.....	22.48	30.00	88.5	.....
		Kentucky bluegrass	.....	13.82	20.00	80.0	.....
		White Clover	.....	9.27	10.00	64.5	.....
	13045	Redtop, 41280, Ill.	S	S	96.30	S	92
Merrimack Farmers' Exchange, Rochester	12976	Ladino Clover, 26568	S	S	97.65	S	65
	12977	Redtop, 41280	S	S	96.30	S	92
	13163	Red Clover, Medium, 50532	S	S	99.50	S	85
	13162	White Clover, Fancy, 56330	S	S	97.70	S	84
	13119	Corn, Sanford Flint, 83-208	4/1944	S	99.50	S	90
	13121	Hungarian Millet, 4854	S	S	99.38	S	82
	13122	Red Clover, Medium, 50535	S	S	99.45	S	86
	13120	Timothy, 12516	S	S	99.61	S	90
L. L. Peavey Co., Inc., ... Portsmouth	13017	White Clover, G 82-45	S	S	98.58	S	91
	12988	Alsike Clover, #5993	S	S	98.04	A	80
	12987	Red Clover, Medium, #5978	S	S	99.00	S	89

(Note) S.—Satisfactory; figures or blanks in these columns indicate violation.

A—Above or better than guarantee.

* A—stated on tag accompanying seed.

Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Purity		Germination	
				Found	Guaranteed	Found	Guaranteed
H. C. Sanborn, .. Laconia	13065	Red Clover .....	.....	98.53	.....	67	.....
	12938	Lawn Seed, Old English, #683: Kentucky bluegrass	1/1914	32.97	.....	50.5	75
F. B. Spaulding Company, .. Laconia		Agrostis spp. ....	.....	29.12	.....	S	87.5
		Ryegrass .....	.....	25.68	.....	86	94
		White Clover .....	.....	1.97	.....	74	55
		Timothy .....	.....	2.79	.....	63	.....
	13088	Barley, Wisconsin 38, 8018	S	S	98.46	A	85
Spaulding & Sons' Checker- board Feed Store, Nashua	13126	Hungarian Millet, 90-24	S	96.82	98.40	S	90
Sunshine Feed Store, ...							
West Lebanon							
Swain's Store, ...	13125	Red Clover, Medium, 15x560 ...	S	S	99.15	A	78
	13123	Redtop, 30-143	S	S	96.80	S	92
	13124	Timothy, 3742	S	S	99.60	S	90
	13160	Timothy, 66-531	S	S	99.60	S	92
Winnisquam							
John B. Varick Company, ... Manchester	13153	Ladino Clover, 026771, #1	S	97.52	99.50	S	60
	13148	Lawn Seed: Redtop	S	50.23	.....	89	.....
Young's Hardware, ...		Kentucky bluegrass .....	.....	19.52	.....	67	.....
		White Clover .....	.....	3.64	.....	42	.....
		Chewings Fescue		6.35		91	
		Ryegrass		12.51		87	
	13041	White Clover, 83-15, N.Z.	S	S	99.37	S	92

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N. H. EXPERIMENT STATION

VEGETABLE SEED INSPECTION, 1945

Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Germination		N. H. Standard
				Found	Guaranteed	
W. E. Aubuchon Company, Nashua Ayers & Jenkins Company, Rochester Beacon Grain Store, Dover	13080	Beans, Golden Wax	(Note)	(Note)	80	80
	13081	Beet, Detroit Dark Red	2/1944	S	65	65
	13082	Peas, Telephone	2/1944	S	80	80
	12991	Onion, Yellow Globe Danvers ..	.....	A	75	70
	12989	Parsnip, Hollow Crown .....	.....	S	70	60
	12990	Rutabaga, Improved Purple Top ..	.....	A	75	75
	12903	Beans, Tendergreen	S	81.5	95	80
	12904	Beans, Bountiful Dwarf .....	.....	S	75	80
	12957	Beet, Early Blood Turnip	S	S	75	65
	12959	Beet, Detroit Dark Red	S	65	87	65
L. C. Berry, Lebanon	12958	Cabbage, Premium Large Flat Dutch .....	.....	A	75	75
	12966	Corn, Bantam Evergreen	S	S	86	75
	12955	Onion, Yellow Globe Danvers ..	S	A	75	70
	12960	Onion, Early Yellow Globe	S	S	95	70
	12961	Peas, Tall Telephone	S	S	95	80
	12956	Rutabaga, Improved Purple Top ..	.....	A	75	75
	12962	Squash, Prolific Straightneck ..	S	S	92	75
	13131	Beet, Crosby's Egyptian	1944	45	70	65
	13134	Rutabaga, American Purple Top, Yellow	1944	S	85	75
	13132	Swiss Chard, Large White Rib ..	1944	S	75	65
Central Feed & Grain Co., Somersworth Checkerboard Feed Store, Dover	13014	Corn, Golden Sunshine	S	S	90	75
	13012	Peas, Gradus, 87029A	9/1943	S	85	80
	12968	Beet, Detroit Dark Red	S	A	72	65
	12969	Corn, Country Gentleman	S	S	90	75
	12970	Peas, Alderman		S	..	80

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Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Germination		N. H. Standard
				Found	Guaranteed	
Checkerboard Feed Store, ... Exeter	13044	Parship, Hollow Crown	S	S	70	60
Chesley Store, ...	12939	Cabbage, Early Flat Dutch	S	S	80	75
Lancaster	12940	Carrot, Dauvers Half Long ...	S	A	55	55
Dover Hardware, ...	12973	Beans, French Horticultural, 23437	S	72	90	80
	12971	Beets, Detroit Dark Red	S	S	75	65
	12972	Corn, Golden Bantam, 25419 ...	S	S	75	75
	12967	Peas, Sutton's Excelsior	S	S	89	80
Eastern States Farmers' Exc., Concord	13174	Cabbage, Mammoth Rock Red..	S	88	95	75
	13175	Lettuce, White Boston	S	S	85	80
	13177	Parship, Model	S	A	75	60
	13176	Spinach, Dark Green Bloomsdale.	S	S	85	60
	12975	Beet, Early Blood Turnip	S	S	..	65
M. H. Fishman, ...	12974	Rutabaga, American Purple Top	S	S	..	75
Rochester	13002	Beans, Brittle Wax .....	.....	S	..	80
	13003	Beans, Goddard .....	.....	S	..	80
	13004	Beans, Improved Golden Wax ..	.....	S	..	80
	13001	Cabbage, Danish Ball Head ...	S	S	80	75
E. C. Foss Company, ...	12999	Onion, Southport Yellow Globe	S	A	79	70
Rochester	12998	Parship, Hollow Crown (Large Sugar)	S	A	65	60
	13000	Rutabaga, American Purple Top	S	A	80	75
General Mills, ...	12953	Beans, Kentucky Wonder Pole	.....	S	..	80
Dover	12954	Beans, Top Notch Golden Wax	S	71	85	80
	12950	Cabbage, Golden Acre .....	.....	S	..	75
	12952	Sweet Corn, Golden Bantam (8-row)	S	53	85	75
	12949	Parship, Hollow Crown .....	.....	S	..	60
	12951	Peas, Laxton's Progress .....	.....	S	..	80
General Mills, ...	13047	Corn, Golden Bantam (8-row)	S	29	85	75
Exeter	13048	Peas, Laxton Progress		S	..	80

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Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Germination	
				Found	N. H. Standard
General Mills, ...	13059	Beans, Yellow Eye .....	.....	S	80
Laconia					
General Mills, ...	13024	Peas, Thomas Laxton	S	S	80
Portsmouth					
Glazier & Fox, ...	13020	Beans, Black Valentine Bush ..	.....	S	80
Portsmouth	13021	Onion, Yellow Globe Danvers ..	.....	S	70
C. J. Goss, ...	13070	Beans, Pencil Pod Black Wax ..	.....	S	80
Lakeport	13071	Peas, Thomas Laxton .....	.....	S	80
Goudies Hardware, ...	12937	Onion, Yellow Globe Danvers ..	.....	A	70
Lisbon					
J. H. Griffin, ...	13031	Cabbage, Danish Rd. Ballhead ..	12/1943	77	75
Newmarket	13033	Corn, Golden Cross Bantam ..	S	77	75
	13034	Corn, Golden Sunshine .....	.....	S	75
Hammer Hardware Company,	13083	Beans, Vermont Shell	S	S	80
Nashua	13084	Cabbage, Copenhagen Market ..	.....	78	75
	13086B	Carrot, Danvers Half Long ..	.....	S	55
	13085	Corn, Golden Bantam	S	90	75
	13086A	Peas, Telephone .....	.....	S	80
Hick's Hardware, ...	12943	Beans, Dwarf Horticultural ..	.....	S	80
Colebrook	12944	Beans, Black Wax .....	.....	S	80
C. M. Hildreth & Son, ...	13137	Beans, Dwarf Horticultural ..	.....	S	80
Lebanon	13138	Beans, Golden Wax .....	.....	S	80
	13141	Beans, Pole Horticultural ..	.....	70	80
	13142	Beet, Early Blood Turnip .....	.....	S	65
	13140	Corn, Golden Sunshine .....	.....	S	75
	13136	Peas, Hundredfold .....	.....	S	80
	13139	Peas, Dwarf Telephone .....	.....	S	80
	13135	Pumpkin, Field .....	.....	S	75
	13143	Squash, Butternut .....	.....	58	75
	13144	Squash, Crookneck .....	.....	S	75
Holbrook Grocery Company, ..	13117	Peas, Gradus #1235	10/1943	S	80
Woodsville	13118	Peas, American Wonder, #22863	S	S	80

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				Found	N. H. Standard
Jefferson Feed & Supply Co., Rochester	13006	Beans, Bountiful Green Pod ..		58	80
J. Jones & Son, ...	13053	Beans, King Horticultural .....	.....	S	80
Kimball Hardware Company, .. Alton Exeter	13037	Cabbage, Drumhead Savoy .....	.....	30	75
	13039	Corn, Golden Cross Bantam .....	.....	S	75
	13036	Onion, Yellow Globe Danvers .....	.....	S	70
	13035	Parsnip, Champion Hollow Crown .....	.....	S	60
	13038	Peas, Sutton's Excelsior .....	.....	S	80
Laconia Hardware, ...	13058	Beans, French Horticultural ..	2/19/4	A	80
Laconia	13057	Peas, World's Record .....	.....	S	80
Littleton Hardware Co., Inc., .. Littleton	12936	Carrot, Nantes Coreless .....	.....	56	55
	12935	Parsnip, Improved Hollow Crown .....	.....	63	60
Merrimack Farmers' Exchange, Derry	13103	Beans, Burpee's Stringless Green Pod .....	.....	S	80
Merrimack Farmers' Exchange, Epping	13115	Corn, Golden Bantam, 8-rowed ..	S	S	75
	13108	Peas, Thomas Laxton	10/1943	S	80
Merrows Market, ...	12941	Rutabaga, Imp. Purple Top ..	.....	A	75
Lancaster					
Nashua Hardware & Plumbing Co., Nashua	13098	Beans, Unrivalled Golden Wax ..	.....	S	80
	13100	Beans, Pencil Pod Black Wax ..	S	80	80
	13096	Cabbage, Mammoth Red Rock ..	.....	S	75
	13099	Cabbage, Jersey Wakefield .....	.....	S	75
	12947	Corn, Bantam Evergreen .....	.....	S	75
F. W. Neal, ...	12946	Onion, Yellow Globe Danvers..	.....	S	70
Dover	12945	Parsnip, Hollow Crown .....	.....	S	60
	12948	Peas, Dwarf Telephone .....	.....	S	80
Neal Hardware, ...	13094	Asparagus, Mary Washington..	.....	S	70
Derry	13095	Beans, French Horticultural ..		S	80
	13093	Parsnip, Hollow Crown		49	60

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Name and Address of Dealer	Sample No.	Kind of Seed	Date Tested*	Germination	
				Found	N. H. Standard
Osgood's, Nashua	13077	Beans, Red Kidney	.....	S	80
	13079	Corn, Bantam Evergreen	.....	S	75
	13078	Parsnip, Hollow Crown	.....	A	60
	13075	Kutabaga, American Purple Top Yellow	.....	A	75
C. E. Palmer, Farmington	13076	Turnip, White Egg	1/1944	S	80
	13064	Beans, Sulphur	.....	S	80
	13063	Corn, Early Golden Bantam	.....	S	75
	13027	Beans, French Horticultural	.....	S	80
L. L. Peavey Co., Inc., Portsmouth	13023	Cabbage, Early Jersey Wakefield	.....	S	75
	13018	Parsnip, Hollow Crown	.....	37	60
	13061	Beets, Crosby's Egyptian	.....	57	65
	13062	Peas, Laxtonian	S	85	80
J. P. Pitman Company, Laconia	13028	Beans, Pencil Pod Black Wax	S	S	80
	13019	Onion, Yellow Globe Danvers	S	S	70
	12942	Beans, Sure Crop Golden Wax	S	S	80
	13068	Beets, Page's Detroit Dark Red	.....	S	65
Portsmouth Hdw. & Plumbing Supply Co., Portsmouth	13069	Peas, Dark Poddled Telephone	.....	S	80
	13011	Beans, Sure Crop	.....	S	80
	13010	Carrots, Long Orange	.....	S	55
	13013	Corn, Golden Bantam	.....	S	75
H. C. Sanborn, Laconia	13009	Peas, Telephone Dwarf	.....	S	80
	13066	Beet, Detroit Dark Red	.....	47	65
	13133	Cucumber, Improved Early White Spine	S	A	80
	13172	Beet, Detroit Dark Red	S	A	65
Scruggs Hardware, Woodsville	13173	Parsnip, Hollow Crown	S	S	60
	12993	Beet, Early Blood	S	S	65
Sears Roebuck & Co., Manchester					
J. H. Seavey, Dover					

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			Found	Guaranteed	N. H. Standard
Somersworth Hardware Co., .. Somersworth	13015	Beet, Detroit Dark Red	S	70	65
Soucy Paint & Hardware Co., Nashua	13016	Peas, Nott's Excelsior	S	90	80
Spaulding & Sons' Checkerboard Feed Store, Nashua	13097	Beet, Crosby Egyptian	S	75	65
A. J. Turcotte, .. Newmarket	13091	Beans, McCaslan Pole	..	..	80
	13089	Beet, Detroit Dark Red	S	72	65
	13092	Corn, Golden Sunshine	S	90	75
	13087	Onion, Yellow Globe	S	..	70
	13090	Parsnip, Hollow Crown	S	82	60
	13043	Beans, Burpee's Stringless Green Pod	S	90	80
John B. Varick Company, ... Manchester	13152	Cabbage, Early Jersey Wakefield	S	88	75
	13150	Carrot, Nantes	S	76	55
	13151	New Zealand Spinach	S	50	40
Varrill Grain Store, ...	13029	Cabbage, Early Jersey Wakefield	S	75	75
Portsmouth	13022	Corn, Early Golden Bantam ..	S	90	75
Western Auto Associates Store, A. L. Mabbett, Owner, Rochester	12978	Beans, Bountiful Bush	S	..	80
	12984	Beans, Horticultural Pole, 19027	S	..	80
H. D. Woods Company, ...	12980	Beet, Extra Early Eclipse	S	..	65
	12981	Cabbage, Late Flat Dutch	S	..	75
	12983	Corn, Early Golden Bantam ..	S	75	75
	12979	Parsnip, Hollow Crown	47	..	60
	12985	Peas, World's Record	S	..	80
	12986	Peas, Nott's Excelsior	S	..	80
	12982	Rutabaga, Sweet German	S	..	75
	13104	Beans, Pencil Pod	S	..	80
	13106	Beans, Giant Stringless Green Pod	S	..	80
	13105	Corn, Golden Bantam	S	..	80
Woodward Grocery, ...	13107	Peas, Thomas Laxton	S	..	75
Winnisquam	13171	Beet, Early Blood Turnip	S	70	65
Young's Hardware, ...	13042	Beans, Pencil Pod Black Wax	S	..	80
Exeter	13040	Peas, World's Record	S	..	80

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